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#8

PATENT

FEB 15 1991 4:35

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: )  
 )  
LeRoy G. Hagenbuch )  
 )  
Serial No.: 351,179 ) Group Art Unit: 234  
 )  
Filed: May 12, 1989 ) Examiner:  
 ) Brian Mattson  
For: APPARATUS AND METHOD )  
RESPONSIVE TO THE ON-BOARD )  
MEASURING OF HAULAGE )  
PARAMETERS OF A VEHICLE )

**COMMUNICATION CONCERNING INFORMATION  
DISCLOSURE STATEMENT**

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

An Information Disclosure Statement was prepared and submitted for the above-identified patent application in August of 1990. Examiner Mattson has recently called the below-signed attorney in connection with this Information Disclosure Statement since it appears that a clerical error has occurred in that the serial number identified in the heading of the Information Disclosure Statement is the serial number of one of the parent patent applications. It is applicant's understanding, however, that the original Information Disclosure Statement has nevertheless found its way to the present application. Both Examiner Mattson and the below-signed attorney agreed that

In re LeRoy G. Hagenbuch  
Serial No. 351,179, filed 5/12/89

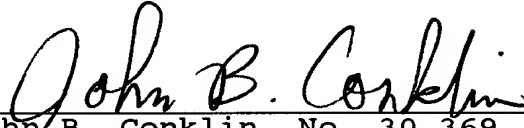
it would be best for the applicant to submit this communication indicating the error so that the record would reflect that the original submission of the Information Disclosure Statement with the incorrect serial number is properly directed to the present application. Specifically, the original Information Disclosure Statement is attached as (Exhibit A) and indicates that the serial number of the application is 910,648, which is the serial number of one of the parent applications. As Exhibit A, applicant is only enclosing a copy of the 4-page statement and a copy of the Form 1449 listing the references cited. None of the enclosures are being re-submitted since applicant understands these enclosures are already available in the file by way of the original Information Disclosure Statement.

Applicant respectfully requests that the references cited in the original Information Disclosure Statement be considered in connection with the examination of the above-identified patent application. The Examiner's attention is also directed to a supplemental Information Disclosure Statement that was filed with an amendment responding to the first Office Action.

In re LeRoy G. Hagenbuch  
Serial No. 351,179, filed 5/12/89

Signed at Chicago, in the County of Cook and State of  
Illinois this 14 day of February, 1991.

Respectfully submitted,



John B. Conklin, No. 30,369  
LEYDIG, VOIT & MAYER  
Two Prudential Plaza  
Suite 4900  
180 N. Stetson  
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**EXHIBIT A**



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AUG 20 1990

GROUP 230

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )

Leroy G. Hagenbuch )

Serial No. 910,648 )

Filed: September 23, 1986 )

For: Apparatus And Method for )  
 On-Board Measuring Of )  
 The Load Carried By )  
 Truck Body )

Group Art Unit: 234 ✓

Examiner: Gary Chin

INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
 and Trademarks  
 Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56, Applicant wishes to direct the Examiner's attention to references cited either by Applicant or by the Examiner in each of the U.S. patents upon which Applicant has claimed priority.

Because the present application is generally directed to the same subject matter as that of the parent patent nos. 4,630,227, 4,839,835, 4,845,648 and 4,831,539. Applicant has chosen to simply re-submit the Information Disclosure Statements (IDSs) filed in each of the applications that matured into the above-identified patents.

This Information Disclosure Statement is believed to comply with 37 C.F.R. §1.98 (a) in that the enclosed IDSs provide a statement of the relevance for each reference. Each statement remains pertinent to the presently claimed invention since, as previously indicated, the claims of the present application are generally directed to the same subject matter as the parent patents. Copies of the cited references can be found in the application files of the parent patents.

The Information Disclosure Statements and the Forms PTO-892 for each of the applications are attached as follows:

TAB A - IDSs, Forms 1449 and Forms PTO-892 for U.S. Application Serial No. 06/604,739, now U.S. Patent No. 4,630,227.

TAB B - IDSs, Forms 1449 and Forms PTO-892 for U.S. Serial No. 06/717,042, now U.S. Patent No. 4,839,835.

TAB C - IDSs, Forms 1449 and Forms PTO-892 for U.S. Application Serial No. 06/874,273, now U.S. Patent No. 4,831,539.

TAB D - IDSs, Forms 1449 and Forms PTO-892 for U.S. Serial No. 06/910,648, now U.S. Patent No. 4,845,648.

Applicant is not enclosing a copy of each of the references identified in the IDSs enclosed under tabs A-D since each of these references can be found in the file history of the corresponding patent application. Attached is a Form 1449, however, listing all of the references identified in the Forms 1449 and Forms PTO-892 under TABs A-D. Applicant invites the Examiner's independent evaluation of these references and respectfully requests they be made of record.

As an aid to the Examiner, the following is a summary of the application of the prior art and the above-identified parent applications as it was applied to claims during the prosecution of each of these applications.

U.S. APPLICATION SERIAL NO. 06/604,739

The following patents were applied in a first Office Action: U.S. Patent Nos. 2,756,983 to Furcini et al.; 4,212,074 to Kuno et al.; and 3,895,681 to Griffin et al.

U.S. APPLICATION SERIAL NO. 06/717,042

The following patents and publications were applied in a first Office Action: U.S. Patent Nos. 3,980,871 to Lindstrom et al.; 2,756,983 to Furcini et al.; 3,321,035 to Tarpley; 3,857,452 to Hartman; 3,895,681 to Griffin et al.; 4,393,951 to Horst-Rudolf; 4,606,419 to Perini; 4,511,974 to Nakane et al.; 4,178,015 to Merriman et al.; and published article from Coal Age magazine entitled "Computer Monitors and Controls All Truck-Shovel Operations".

In the second Office Action, the following patents were applied: U.S. Patent Nos. 3,980,871 to Lindstrom et al.; 3,857,452 to Hartman; 3,878,908 to Andersson et al.; 4,178,015 to Merriman et al.; and the Cole Age magazine article entitled "Computer Monitors and Controls All Truck-Shovel Operations".

U.S. APPLICATION SERIAL NO. 06/874,273

In each of a first and second Office Action, U.S. Patent No. 4,099,591 to Carr was applied.

U.S. PATENT APPLICATION SERIAL NO. 06/910,648

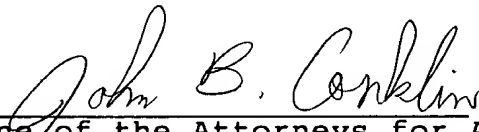
In each of two Office Actions, U.S. Patent No. 4,630,227 to Hagenbuch (corresponding to application 06/604,739) was applied. In the first Office Action, U.S. Patent No. 3,895,681 to Griffin et al. was also applied.

Attached is a Form 1449 listing all of the references identified in the Forms 1449 and Forms PTO-892 under TABs A-D. Applicant appreciates and apologizes for the awkwardness of this Information Disclosure Statement. After some consideration, however, Applicant was unable to determine a better way to ensure that the many references cited in the parent applications were properly presented in this present continuation-in-part application.

Finally, concerning the filing of the present application more than one year after the issuance of one of the parent applications, Applicant believes the present claims are fully supported under 35 U.S.C. §112 by the present applications and, therefore, the claims enjoy the benefit of their early filing dates.

Signed at Chicago, in the County of Cook, and State of Illinois, this 16<sup>th</sup> day of August 1990.

Respectfully submitted,

  
One of the Attorneys for Applicant  
John B. Conklin, Reg. No. 30,369  
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One IBM Plaza - Suite 4600  
Chicago, Illinois 60611  
(312) 822-9666

Hagenbuch, LeRoy G.  
Serial No. 910,648



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on August 16, 1990.

August 16, 1990  
Date

John B. Conklin  
John B. Conklin - Reg. No. 30,369



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AUG 20 1990

GROUP 230

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )  
 )  
 LeRoy G. Hagenbuch )  
 )  
 Serial No. 604,739 ) Group Art Unit 234  
 )  
 Filed: April 27, 1984 )  
 )  
 For: Apparatus and Method )  
 for On-Board Measuring )  
 of the Load Carried By )  
 A Truck Body )

INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
 and Trademarks  
 Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. §1.97, the Examiner's attention is drawn to the patents and other literature listed on the attached PTO Form 1449 which are described briefly hereinafter.

For the Examiner's convenience, copies of each of the references listed on the attached PTO form 1449 are enclosed. The following is a brief statement of the relevance of each listed reference.

The Merriman et al. reference discloses an inflatable spring for use in connection with the suspension system of a vehicle. The inflatable spring includes a flexible hose which is folded over upon itself and clamped at its ends. The upper and lower portions are joined by a conduit in order to equalize pressure. The inflatable springs are not disclosed as a load measuring device.

The Norberg reference discloses a load measuring device for a truck having a dump body. Means are provided for measuring the torque about an assumed center of gravity of the truck body and coupling the torque with the pressure measured in the hoist cylinder for the truck body to provide

a determination of the weight of the load carried by the truck body unlike applicant's invention, the weight of the load must be measured while the body is raised off the frame.

The McCauley reference discloses the use of load cells on logging trucks in order to provide an indication of the weight of the logs. The body of the logging truck is fixedly attached to the frame and not capable of pivoting. Other patents using load cells in connection with logging trucks for determining the total weight of logs carried by the truck are the English et al. reference, the Blench et al. reference, the Baker reference, the Anderson reference, the Nordstrom reference and the Horst-Rudolf reference. All of these latter references disclose fixed bodies.

The Henzel reference discloses means for sensing the overloading of a truck body. The means for sensing the overloading is provided by a proximity switch which closes when the suspension of the truck compresses and lowers an associated electromagnet sufficiently close to the switch so as to cause the switch to be activated. Another reference disclosing an overload detecting device is the Jackson reference. In the Jackson reference, means are provided for detecting the deflection of the frame in response to the load carried by the vehicle.

The Videon '041 patent discloses a transducer beam whose deflection is utilized to calculate the load carried by a vehicle. Other references using beam deflection under the weight of the load carried by a vehicle include the Videon '817 patent, the Johansson reference the Reid reference and the Mercer reference. The Schmidt reference includes a deformable member which deforms in relation to the weight of the load and thereby provides a transducer function for indicating the weight carried by a logging truck.

Many of the references cited on form 1449 utilize strain gauges as sensors for determining the load carried by a vehicle. Examples of various applications of strain

gauges to fixed-body vehicles are found in the Bradley reference, the Andersson et al. reference, the Scott et al. reference, the Klein reference, the Gale et al. reference and the Hamilton reference.

The Holmstrom reference discloses a load carrying vehicle which utilizes strain gauges and air bags to measure the weight of the vehicle body. The air bags are located on the rear and front axles of the vehicle. The load receiving body is fixed in relation to the vehicle frame.

The Maugh reference discloses hydraulic transducers for logging trucks which measure the weight of the logs carried by the truck. The transducers are positioned between the body and frame of the truck. The body is non-pivotal. A similar device is disclosed in the Sjogren reference which discloses the use of "scale pads" which are pressurized and support the body of a logging truck on the truck frame. The pressure in the pads is used as an indication of body weight.

The Theurer et al. reference discloses means for estimating the load of a railroad vehicle by sensing the displacement of suspension springs supporting the vehicle body on the frame.

The Goodall reference discloses a system for sensing and transmitting load data to a remote location via a radio link. The particular sensing devices disclosed are load cells which support the weight of a body fixedly mounted on the frame of the vehicle.

Also listed on the attached form 1449 is a brochure for the "Merriman Windjammer" which is an advertisement for the device disclosed in the Merriman et al. patent discussed above. The brochure indicates applications for the pressurized tubing disclosed in the Merriman patent other than as a spring for a vehicle. But, the brochure does not disclose the use of the tubing as a on-board means for measuring the weight of a truck body.

Finally, the attached form 1449 includes a contract report prepared by the Bureau of Mines, United States

Department of the Interior. The report is directed to "Off-Highway Haulage Truck Overload Detection". The first portion of the report is directed to a discussion of the effects of overloading off-highway vehicles. On pages 39-43 weighing systems of various manufacturers are discussed.

Test results for several weighing systems are summarized in the Bureau of Mines report. In one system called "load analyzer" manufactured by Pactronics Corporation (p. 48), three linear variable differential transformers are welded or braised between the front members of the engine subframe and the top of the left and right trailing arms of the truck. The third transformer is attached to the rear center line of the truck, between the main frame cross member and the A-frame.

A second system tested in the report is called "load indicator" and is manufactured by ASEA Inc. of New York (p. 50). This system consists of four magnetoelastic force transducers, a digital display unit for the cab console, and external loading lights visible to loading shovel operators. Using a special spot-braising technique, two sensors are attached to the left and right bottom of the main frame under the front pads and two more sensors are attached near the left and right rear hinge pins. The digital read out of the four-sensor configuration indicates front, rear, total net or gross weight and shows uneven distribution of the load. The external loading lights guide the load operator by indicating the condition of the load.

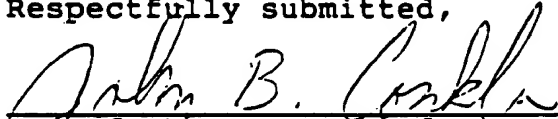
The Examiner's attention is directed to page 49 wherein a vague reference is made to using the pads between the body and frame of the truck as a device for weighing. Specifically, the report mentions at page 45 that the Nippon Dyne-a-Mat system may be used in this connection. A short summary and a single drawing of the system is found at page 81 of the report.

Although the foregoing references all broadly disclose means for measuring the weight of a load carrying body, applicant's invention is directed to means for accurately

measuring the weight of a load-carrying body by providing weight detection apparatus which supports the body in its lowered position such that the weight of the load is transferred to the frame of the truck uniformly along the frame-body interface, thereby eliminating structural stress introduced by all prior art weighing devices while at the same time providing a highly accurate weight indication. In addition, by providing a load sensing device which can accurately measure the weight of a pivotal body without moving the body from its loading position, (i.e., its lowered position) applicant's invention allows the weight of a load to be accurately monitored while loading the truck body and without interfering with the load procedure.

Signed at Chicago, in the County of Cook, State of Illinois this 17 day of April, 1985.

Respectfully submitted,

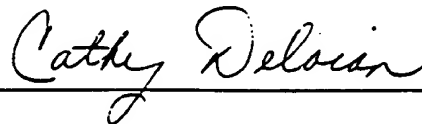


One of the Attorneys for Applicant  
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One IBM Plaza - Suite 4600  
Chicago, Illinois 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on April 17, 1985.

By: \_\_\_\_\_



ATTY. DOCKET NO.

15469

SERIAL NO.

604,739

LIST OF PRIOR ART CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

LeRoy G. Hagenbuch

FILING DATE

April 27, 1984

GROUP

234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	3 5 3 1 76 6	9/70	Henzel			
AB	3 5 4 5 55 8	12/70	Maugh			
AC	3 6 0 3 41 8	9/71	Schmidt et al.			
AD	3 6 6 9 75 6	6/72	Bradley			
AE	3 7 4 3 04 1	7/73	Videon			
AF	3 7 8 08 1 7	12/73	Videon			
AG	3 8 0 08 9 5	4/74	Gale et al.			
AH	3 8 5 45 4 0	12/74	Holmstrom, Jr.			
AI	3 8 7 49 0 8	4/22	Andersson et al.			
AJ	3 8 8 97 6 7	6/75	Scott et al.			
AK	3 8 9 99 2 4	8/75	Klein			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL							
AM							
AN							
AO							
AP							

OTHER PRIOR ART-(Including Author, Title, Date, Pertinent Pages, Etc.)

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AT

EXAMINER

*Joe R. J.*

DATE CONSIDERED

5/30/81

NO COPIES  
FILED

ATTY. DOCKET NO.

15469

SERIAL NO.

604,739

APPLICANT

Leroy G. Hagenbuch

FILING DATE

April 27, 1984

GROUP

234

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AL	3 9 2 7 7 2 4	12/75	Baker			
AM	3 9 6 0 2 2 8	6/76	Nordstrom			
AN	3 9 7 1 4 5 1	7/76	Norberg			
AO	4 0 2 0 9 1 1	5/77	English et al.			
AP	4 0 9 5 6 5 9	6/78	Blench et al.			
AQ	4 0 9 5 6 6 0	6/78	Johansson			
AR	4 1 0 8 2 6 2	8/78	Anderson			
AS	4 1 2 3 9 3 3	11/78	Reid			
AT	4 1 4 8 3 6 9	4/79	Mercer, Jr.			
AU	4 1 7 8 0 1 5	12/79	Merriman et al.			
AV	4 2 4 9 6 2 3	2/81	McCauley			

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL							
AM							
AN							
AO							
AP							

-(Including Author, Title, Date, Pertinent Pages, Etc.)

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DATE CONSIDERED

5/30/91

15469

SERIAL NO.
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604,739

APPLICANT

<sup>P</sup>LICANT  
LeRoy G. Hagenbuch

FILING DATE

April 27, 1984

**GROUP**

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(Use several sheets if necessary)

... U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

[illegible]

.- (Including Author, Title, Date, Pertinent Pages, Etc.)

BC	Brochure for the "Merriman Windjammer" Air/Hydronechanical Actuation
	by Merriman Products, Inc., Jackson, Michigan
BD	Contract report prepared by the Bureau of Mines, United States
	Department of the Interior. Directed to "Off-Highway Haulage Truck Overload Detection".

## EXAMINER

DATE CONSIDERED

5/30/91

FORM PTO-892  
(REV. 3-78)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

SERIAL NO. 964,126

GROUP/ART UNIT

ATTACHMENT  
TO  
PAPER  
NUMBER

604739

234

## NOTICE OF REFERENCES CITED

APPLICANT(S)

HAGENBUCH

## U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A		2756983	7-1956	FURCINI	177	141X	
B		4212074	7-1980	KUND et al	364	567	
C		3895681	7-1975	GRIFFIN et al	177	141	
D		3279550	12-1963	KERSTEN	177	136	
E		3321035	5-1967	TARPLEY	177	136	
F		3306384	6-1966	ROSS	177	141	
G		4468968	9-1984	KEE	364	558	4-83
H							
I							
J							
K							

## FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L		1593993	7-1981	GREAT BRITAIN	WHITTON	177	136		
M									
N									
O									
P									
Q									

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R		
S		
T		
U		

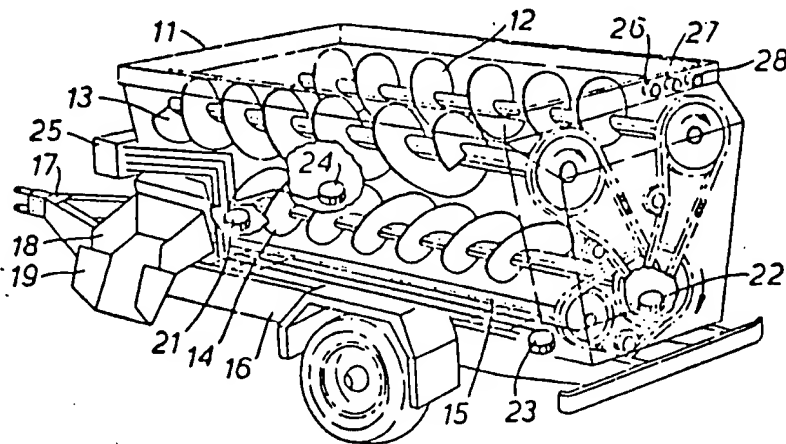
WHIT/ ★ S02 G8651 D/30 ★ GB 1593-993  
Weight-sensitive metering appts. for motor vehicle or trailer -  
has control circuit associated with load cells and indicator lamps  
WHITTON H W 03.06.77-GB-023597  
(22.07.81) G01g-09 G011-01

31.05.78 as ----- (912FK)

The appts. is for use on a motor vehicle or trailer for determining an applied load such as the weight of material charged into a hopper or other container. The container (11) is mounted on the chassis (16) by a mounting system incorporating four load cells (21-24) which are connected by electrical lines to a control box (25). By providing four such cells any asymmetry in the loading of the container can be compensating automatically in a known way without introducing errors into the operation of the circuit.

Three indicator lamps (26,27,28) are mounted on the rear of the container and connected to the control box. The remote lamps are controlled via relays, switching transistors or thyristors. The control circuit includes an oscillator (10) feeding a two-phase signal to the load cells. The output from the load cells is fed to an AC summing amplifier (30) which also receives a reference signal from the oscillator. (Opp Dwg. No.1)

S02-D01X S02-D02C S02-F01C





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AUG 20 1990

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of  
LeRoy G. Hagenbuch

Serial No. 717,042

Filed: April 1, 1985

For: Apparatus and Method  
Responsive to the  
On-Board Measuring of  
the Load Carried by  
a Truck Body

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INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.97, the Examiner's attention is drawn to the patents and other literature listed on the attached PTO Form 1449 which are described briefly hereinafter. For the Examiner's convenience, a copy of each of the references listed on the attached PTO Form 1449 is enclosed.

An Information Disclosure Statement has previously been filed in the co-pending parent application of this application, U.S. Serial No. 604,739, and the substance of that statement is incorporated by reference in this statement. Copies of the statement in the '739 application and the Form 1449 attached thereto are enclosed herewith for the Examiner's convenience.

The following is a brief statement of the relevance of each reference listed on the attached Form 1449.

Reference AA is a one page ad for a material handling device or storage system identified by the trademark name Load Bank, manufactured by Conveyor Logic Inc. In an illustration included in the ad, a flexible hose appears to

provide a cushioned support for a series of rollers housed in a channel for providing a bearing surface for storage pallets. Applicant is only aware of the "Load Bank" storage system to the extent that it is disclosed in the enclosed ad and, based on the ad, believes the illustration shows only a hose for cushioning the roller assemblies.

Reference AB is a brochure which discloses the use of ordinary vehicle tires as means for weighing large masses at remote locations. The use of ordinary tires in connection with a pressure plate is disclosed in various environments, but none of those environments include or suggest a weighing device on board a vehicle.

Reference AC is an article entitled "Computer Monitors and Controls All Truck-Shovel Operations" which appeared in the March 1985 issue of Coal Age magazine. Although this article appears in the March, 1985 issue of Coal Age and, therefore, is not prior art to applicant under Section 102. The article is included in this statement in the interest of full disclosure. The article describes a computer dispatching system for hauling trucks to be installed at an open-pit mine in Canada by a company named Modular Mining Systems, Inc. In the disclosed system, a central computer cooperates with a dispatcher to give instructions to the operator of the hauling trucks in order to maximize the efficiency of the trucks by optimizing the truck routes. In order to keep track of the location for each truck, beacons are located at various locations in the mine in order that signals transmitted from the trucks may be received by a particular beacon and thereby indicate to the central computer the physical location of the truck.

Unlike applicant's dispatch system, the system disclosed in the foregoing article from Coal Age magazine requires each truck driver to manually enter information into an on-board computer when the truck arrives at a location, begins to load and dumps the load. Because of the on-board weighing device disclosed and claimed by applicant,

the claimed invention does not rely upon the truck operator for full integrity of the system. In other words, the system described in Coal Age magazine only works if each truck driver remembers to enter all the appropriate data. In contrast, applicant's invention, because of the on-board weighing device, does not have any need for an input from each truck operator in order for the system to function properly.

Reference AD are two fliers for an electronic device which is mounted on board a vehicle for monitoring certain parameters of the vehicles such as total hours in service. By maintaining a record of the total hours in service, the vehicle owner can accurately determine when periodic maintenance is required.

Reference AE is a flier from Kent Manufacturing of Seattle, Washington. The flier discloses a cushioning member which installs to the underside of a truck body for allowing a cushioned interface between the body and frame of the truck. This cushioned interface is merely vulcanized rubber and in no way is capable of providing a weight measurement nor does it suggest any kind of mechanism which would weigh the truck body.

Reference AF is pamphlet YM 18-103 NA distributed by the Bureau of Mines at its "Technology Transfer Seminar on Safety in the Operation and Maintenance of Large Surface Mining Equipment" during August of 1983. The pamphlet includes a brochure for Wylie "Safe Load Indicator Systems". The system uses the hydraulic supports for the truck body as a means to provide an indication of weight. Specifically, load sensors accurately monitor pressure in the hydraulic cylinders and thereby provide an indication of the weight of the truck body. In this system, the truck body must be lifted off of the frame by the hydraulic cylinders for a weight reading to be obtained. Several other systems are also disclosed in the pamphlet.

Reference AG is a brochure entitled "The VMS - Setting New Standards for Vehicle Monitoring" which describes a vehicle monitoring system for reducing maintenance and operating costs manufactured by GLI Corporation. This system provides for the on-board monitoring of various operational parameters of a heavy duty, off-road truck. The system does not provide for the weighing of the load carried by the truck body, nor does it provide for the control of vehicle dispatching in response to changes in its load. In the GLI system, certain vehicle parameters such as engine oil level are recorded by an on-board device and downloaded to a dedicated computer by way of a RF link.

Reference AH is a technical paper entitled "Real Time Data Retrieval System is Key to Diagnostics". It was delivered at the International Congress and Exposition held in Detroit, Michigan by the Society of Automotive Engineers on February 27 - March 2, 1984. In substance, this paper describes the vehicle monitoring system by GLI Corporation discussed in connection with Reference AG.

Reference AI is an article from the magazine "Diesel Progress" and is a discussion of the GLI System discussed in References AG and AH.

Reference AJ is U.S. Patent No. 4,178,015 to Merriman et al. entitled "Inflated Vehicle Spring and Lift".

Reference AK is a brochure for the "Merriman Windjammer" which is an air or hydromechanical actuator.

References AL to AP disclose systems for weighing the loads carried by vehicles. They are similar to the types of systems disclosed in the Information Disclosure Statement (IDS) submitted in the co-pending U.S. patent application Serial No. 604,739 of which this application is a continuation-in-part. Since references AL to AP are similar to the references in the IDS for the '739 application and since applicant is enclosing with this statement a copy of the IDS from the '739 application, there is no need to deal with references AL to AP individually or in detail.

Signed in Chicago, in the County of Cook, State of  
Illinois this 29 day of January, 1986.

Respectfully submitted,

John B. Conklin

John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer, Ltd.  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited  
with the United States Postal Service as first class mail in an  
envelope addressed to: Commissioner of Patents and Trademarks,  
Washington, D.C. 20231 on January 29, 1986.

By

John B. Conklin

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
LeRoy G. Hagenbuch	)	
Serial No. 717,042	)	Group Art Unit: 234
Filed: April 1, 1985	)	Examiner: B. Mattson
Title: Apparatus And Method	)	
Responsive To The	)	
On-Board Measuring Of	)	
The Load Carried By	)	
A Truck Body	)	

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.56, applicant directs the Examiner's attention to the references cited by the European Examiner in connection with the issuance of a search report for the European cognate of U.S. Serial No. 874,273. The '273 application is a continuation-in-part of the present application. The references identified by the European Examiner in his search report are listed on the attached form PTO-1449, and copies of the references are attached for the Examiner's convenience. Also identified on the attached form PTO-1449 are non-patent publications identified by applicant in connection with his ongoing involvement in the field of vehicle management. Copies of these non-patent publications are also enclosed.

To ensure the Examiner is aware of all related cases, the following pending applications have been filed in applicant's name and are of a related technology.

U.S. Serial No. 910,648 (a continuation of U.S. Patent No. 4,630,227); and

U.S. Serial No. 874,273.

In accordance with 37 C.F.R. §1.98, the following are concise explanations of the relevance of each of the documents listed on the attached form PTO-1449.

Reference:

AA. The patent discloses a location monitoring system for buses. Signposts located along bus routes include location data for interrogation by electronics on-board the bus. The location data is communicated to a control center for monitoring the movement of the bus.

AB. The patent discloses a location monitoring system for vehicles wherein a passive signpost is interrogated by electronics on-board the vehicle. The location information determined from the signpost is communicated to a central monitoring station.

AC. The system of this patent utilizes a combination of signposts and dead-reckoning in order to maintain a "real-time" determination of vehicle location. A vehicle location is reset or zeroed when it reaches a signpost. For movement of the vehicle between signposts, a dead-reckoning method is utilized.

AL. The system disclosed in this patent is substantially similar to the system described in Reference AC.

AM. The published application discloses a vehicle location monitoring system utilizing signposts and a central control station. A transmission scheme is disclosed which allows for communication between the vehicle and the signpost and the vehicle and the central control station utilizing only a single operating frequency, thereby eliminating any need for extra receivers and transmitters at the vehicle.

AN. This system discloses a network of passive signposts which are interrogated by electronics on-board a vehicle. The signpost includes location data which is gathered by the on-board electronics and downloaded to a central control location.

AQ. Applicant believes that the system disclosed in this advertisement brochure utilizes signposts to monitor arrival and departure times at specific work sites.

AR. The reference discloses a computerized vehicle dispatch system which applicant understands to simply include a stationary transmitter/receiver and on-board transmitter/receivers for tracking vehicles with the help of an operator interface.

AT. This publication discloses an automatic truck dispatching and identification system for use in an open-pit mining environment wherein signposts are strategically placed throughout the mine in order to update the location of a vehicle by way of an on-board electronic circuit interrogating the signpost. The on-board circuit downloads the vehicle location data to a central station for use by a controller to automatically determine the optimum dispatch order for the vehicle.

AU. This brochure discloses a system which is interfaced to a Loran-C receiver/channel modem. The Loran-C signals picked up by the receiver are converted into information used to calculate vehicle location. This information is then transmitted via an existing two-way radio to a central dispatch location.

AV. This reference discloses a vehicle location system which combines a dead-reckoning approach with a satellite-location system. The dead-reckoning system is primarily relied upon and updated periodically by reference to a "transit" satellite.

BM. The brochure discloses a vehicle management system which detects the presence of a vehicle at predetermined sites. The detection of a vehicle is transmitted to a central control location for monitoring by a dispatcher.

BN. This article discloses a software program for determining the best routes for a fleet of vehicles. No real-time monitoring is provided.

BO. This article discloses a truck location and dispatching system which relies upon the truck operator to enter information regarding truck location and activity into an on-board computer. The on-board computer transfers the information to a central location where the information is utilized in connection with an algorithm for determining a dispatch instruction.

BQ. This paper discloses a system which utilizes a Loran-C receiver to pinpoint a location of a vehicle. The vehicle location is transmitted to a central dispatch location. When a vehicle must be dispatched to a particular site, the dispatcher can dispatch the closest vehicle.

CI. This reference discloses a vehicle data collection and management system which utilizes signposts at various working locations and vehicle ID circuitry on-board each truck such that important hauling parameters identified by each signpost can be associated with a particular truck ID and downloaded to a central management station. For example, one signpost may be incorporated with a scale such that the weight of the truck can be obtained and matched with a vehicle ID for downloading to a central location.

CJ. This reference discloses a vehicle location system which utilizes signposts and a type of dead-reckoning wherein odometer sensors are attached to the right front wheel of the vehicle in order to measure the distance a vehicle has traveled from a reference signpost.

Signed at Chicago, in the County of Cook and State of Illinois this 22 day of September, 1988.

Respectfully submitted,

John B. Conklin  
John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 22 day of September, 1988.

By

John B. Conklin

Dated:

Sept. 22, 1988

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
JL	AA	3,644,883	02/22/72	Borman et al.	340	23	
	AB	3,876,980	04/08/75	Haemming et al.	340	146.1	
	AC	3,940,630	02/24/76	Bergonz	250	568	
	AD	4,009,375	02/22/77	White et al.	235	150.24	
	AE	4,009,591	07/11/78	Carr	180	98	
	AF	4,217,588	08/12/80	Freeny, Jr.	343	112 D	
	AG	4,350,970	09/21/82	von Tomkewitsch	340	23	
	AH						
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## FOREIGN PATENT DOCUMENTS

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	AL						
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AR	<del>"Truck Management Systems Review" by V. Srajer, CANMET (Canada Centre For Mineral &amp; Energy Technology) Calgary Coal Research Laboratory, December, 1985.</del>
AS	<del>"Vehicle Monitoring System For Large Off-Highway Trucks", article of GLI Corp. in MINING JOURNAL, January 10, 1986.</del>
AT	<del>"An INTEGRATED Truck Management Information System (Truck MIS) Concept" article by LeRoy G. Hagenbach presented at CIM 2nd Dist. 5 Mtg. on Sept. 11, 1985.</del>
AU	<del>"Analysis of Open Pit Truck Haulage System by Use of A Computer Model" by J.H. Tu &amp; J. Hucha of Univ. of Utah, in the CIM BULLETIN, July, 1985, pp. 53-60.</del>

EXAMINER

DATE CONSIDERED

5/30/91

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 509; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL					
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AV	"Fully Integrated Truck Information & Control Systems (TIACS)" by T.O. Jones & W.K. Tsuha. SAE Technical Paper Series, Truck & Bus Expo, Cleveland, OH, Nov. 7-10, 198
AW	Article on AGV (Automated Guided Vehicle) marketed by Caterpillar Co. along with General Electric Co. of Great Britain. Publication unidentified.
AX	"Car 54, Where Are You? Just Check The Computer Map" article in BUSINESS WEEK, Science & Technology section, August 12, 1985.
AY	"Eye In Sky Will Keep Us From Getting Lost" article by John Hillkirk in USA TODAY, March 5, 1986.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

		"Satellites Add More Accuracy To Locating Objects On Earth" article by D. Wessel, Staff Reporter of THE WALL STREET JOURNAL. Date Unknown.
AZ		Advertisement by the Hawker Siddeley Dynamics Engineering Ltd. in THE MINING ENGINEER for mining controls capabilities, p. 332, date unknown.
BA		Advertisement by Hawker Siddeley Dynamics Engineering Ltd. on the "Elements Of An MVM System".
BB		"Dynalink Mine Vehicle & Material Management System", Publication No. BSL 924, Issue No. 01, by Hawker Siddeley Dynamics Engineering Ltd., HSDE 1986.
BC		

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BD	Advertisement by Identification Devices, Inc., Boulder, CO, on the SYSTEM I.D.® Automated Vehicle Identification. Date Unknown.
BE	Article on the AVM (Automatic Vehicle Monitoring) and AVL (Automatic Vehicle Location) Systems, pub. in MOBILE RADIO TECHNOLOGY; Sept. 1985, pp. 64-65.
BF	Article in DESIGN NEWS entitled "Automatic Vehicle Locator 'On-The-Air'", Sept. 23, 1985, p. 29.
BG	Brochure entitled "Automatic Vehicle Locator System"® by Motorola, Inc., 1984.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.

(JBC/ml)

Form PTO-1449  
(Rev. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOC. NO.  
16842SERIAL NO.  
717,042

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BH	"Construction Vehicle ID Transmitter For Carriage Data Collection & Management System" by Sumitomo Electric Ind. Int'l Cong. & Expo, Detroit, MI, Feb. - Mar. 1985
BI	Cost Savings Bulletin I describing "VMS" As A Preventive Maintenance Tool" dated January 13, 1985.
BJ	Cost Savings Bulletin II describing "VMS" As A Preventive Maintenance Tool" dated September 6-8, 1985.
BK	Cost Savings Bulletin III describing "VMS" As A Preventive Maintenance Tool" dated December 28-29, 1985.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

	BL	"THE VMS" - Setting New Standards For Vehicle Monitoring", publication by GLI Corp of Woodinville, WA, published December, 1985.
	BM	Article on "Modems Take To The Airwaves" by M. David Stone, published in PC MAGAZINE, January 14, 1986, pp. 184-193.
	BN	A.H. Emery "Hytronic Totalizer" catalog sheet, Bulletin 2911, December 5, 1985.
	BO	The "OEM-BUS Single Board Computer SYS-22" catalog sheets by The ROBASIC Corporation.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

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	AL						
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BP	"Optodata® 5200, The Cable Eliminator" sales literature by Scientific Technology, Inc., including master price list.
BQ	Catalog listing Telxon Portable Bar Code Scanners, Telxon Corporation.
BR	Article "Bar Codes Hold 'Patent' on Document Tracking" in AUTOMATIC I.D. NEWS, September, 1986.
BS	The Argo FMS 1330 "Report Card" marketing brochure describing the Argo Fleet Management Systems.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 4/01/85

GROUP 234

## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

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	AL						
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

	BT		<del>"5TH Wheel" catalog sheet by Structural Instrumentation, Inc.</del>
	BU		<del>Advertisement in "Chillon's IAN INSTRUMENTATION &amp; CONTROL NEWS, Vol. 33, No. 12, Burr-Brown's "Multibus"-compatible ANALOG INPUT BOARD, December, 1985.</del>
	BV		
	BW		

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
	)	
LeRoy G. Hagenbuch	)	Group Art Unit: 234
	)	
Serial No. 717,042	)	Examiner: Mattson
	)	
Filed: April 1, 1985	)	
	)	
Title: Apparatus And Method	)	
Responsive To The	)	
On-Board Measuring	)	
Of The Load Carried	)	
By A Truck Body	)	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97, applicant directs the Examiner's attention to the patents listed on the attached form PTO-1449. Copies of the patents are enclosed for the Examiner's convenience.

The patents cited on the attached form PTO-1449 were cited in a first Office Action in applicant's co-pending application Serial No. 874,273. Each of these patents is generally directed to a system for monitoring the locations of vehicles. None of the cited patents, however, discloses weighing devices on board the vehicles and used in conjunction with the vehicle location system as claimed by applicant.

The Examiner has indicated that the non-patent references cited on the form PTO-1449 submitted with a May 8, 1987 Information Disclosure Statement were not considered because copies were not provided (copies were indicated as being available in applicant's co-pending application serial No. 874,273). By way of this statement, applicant is again listing

these non-patent references on the attached form PTO-1449 and enclosing copies of the references. Each of these non-patent references was discussed in an attachment to the May 8 Information Disclosure Statement, and the Examiner's attention is directed to that attachment for an indication of the relevance of each of these listed non-patent references. Applicant would like to expressly note that a substantial number of the non-patent references are clearly not prior art to this application. However, in the spirit of full disclosure, applicant has nevertheless cited all of the references cited in the '273 application.

Signed at Chicago, in the County of Cook and State of Illinois this 20th day of November, 1987.

Respectfully submitted,

John B. Conklin  
John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this Supplemental Information Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 20th day of November, 1987.

By John B. Conklin

Dated: Nov. 20, 1987



## 236

5/30/91

**ATTY. DOCKET NO.**

16842

**SERIAL NO.**

717,042

### LIST OF PRIOR ART CITED BY APPLICANT

**(Use several sheets if necessary)**

**APPLICANT**

**LeRoy G. Hagenbuch**

FILING DATE

April 1, 1985

**GROUP**

236

U.S. PATENT DOCUMENTS

[illegible]

**FOREIGN PATENT DOCUMENTS**

[illegible]

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AG	Brochure entitled "The VMS - Setting New Standards for Vehicle Monitoring" by GLI Corporation
AH	Technical paper entitled "Real Time Data Retrieval System is Key to Diagnostics" which was delivered at the International Congress and Exposition held in Detroit, Mich. by the Society of Automotive Engineers
AI	Article from the magazine "Diesel Progress" entitled "Remote Monitoring of Off-Highway Vehicles"

DATE CONSIDERED

5/30/9

**APPLICANT**

FILING DATE

**April 1, 1985**

**GROUP**

236

**AK**

AL

A41

**DATE CONSIDERED**

5/30/91

**MINER:** Initial reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

## LIST OF PRIOR ART CITED BY APPLICANT

**(Use several sheets if necessary)**

**ATTY. DOCKET NO.**

**SERIAL NO.**

**APPLICANT**

**FILING DATE**

**GROUP**

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

AN	Pamphlet entitled "The SI-100 On-Board Electronic Scale" from Structural Instrumentation, Inc., 4611 S. 134th Place, Tukwila, Washington 98168
AO	Pamphlet entitled "Wheel Weighers", from Evergreen Weigh, Inc., Suite E, 19023 36th Ave. W., Lynnwood, Washington 98036
AP	Pamphlet entitled "SSI Sludge Mixer" from SSI Corporation, P.O. Box 209, West Highway 12, Long Lake, Minnesota 55356

## FINER

**DATE CONSIDERED**

5/30/91

**MINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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JBC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED  
JAN 10 1985

In re application of:

LeRoy G. Hagenbuch

Serial No. 717,042

Filed: April 1, 1985

Title: Apparatus And Method  
Responsive To The On-Board  
Measuring Of The Load  
Carried By A Truck Body

Group Art Unit: 234

Examiner: Mattson

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

In response to the Examiner's telephonic request for the dates of publication for references AZ, BA, BB, BO, BS and BT set forth on the form PTO-1449 accompanying the supplemental information disclosure statement dated November 20, 1987, applicant has reviewed the references and is unable at this time to provide the Examiner with accurate publication dates. Although applicant and applicant's attorneys are not representing or admitting that any of the listed references qualify as prior art for the referenced application, it is requested that the Examiner treat each of the above-identified references as having an associated publication date that is prior to applicant's filing date. If any one of the references is determined by the Examiner to be of particular relevance, the applicant will make an effort to determine its effective date by inquiring to the publisher.

Applicant's attention has also been directed to additional references AQ, AR, AS, AT, BK, BL and BM cited on the attached form PTO-1449. Copies of these references are enclosed. In addition, applicant is also enclosing a translation of the French patent 2,562,659 previously cited as reference AN in the information disclosure statement submitted on May 20, 1987.

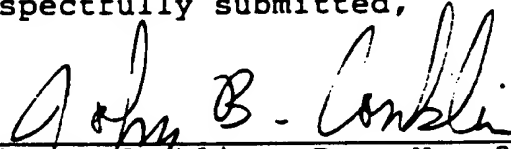
Hagenbuch, U.S.S.N. 874,273

Applicant directs the Examiner's attention to the fact that this French patent was published on October 11, 1985, a date which is after applicant's filing date.

As for the references AQ-BM, several are clearly not prior art and are submitted only as items of possible informational interest to the Examiner. As for the remaining references, applicant does not believe that they are of any greater relevance than those references already cited and applied by the Examiner.

Signed at Chicago, in the County of Cook and State of Illinois this 2<sup>nd</sup> day of February, 1988.

Respectfully submitted,



John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

Form PTO-1449  
Rev. 7-80)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.  
16842

SERIAL NO.  
717,042

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85 GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA						
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL	84 05278	10/11/85	France			X
AM						
AN						
AO						
AP						

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AO	Specification Sheet from NORAND Data Systems RT1200 Radio Data Network, 1985.
AR	Advertisement from AUTOMATIC I.D. NEWS on LXE's Radio Linked Data Communications, LXE, a Division of Electromagnetic Sciences, Inc., November, 1986.
AS	Advertisement on Texlon's Portable Tele-Transaction Computers, (PCTs).
AT	Article from MIS WEEK entitled "JIT And The Receiving Room" by Bill Maraschiello, Associate Editor, May 19, 1986.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 09; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.

DATE CONSIDERED

5/30/91

dates not established as prior art

(JBC/mla)

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85 GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AU						
	AV						
	AW						
	AX						
	AY						
	AZ						
	BA						
	BB						
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	BE						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
	BF						
	BG						
	BH						
	BI						
	BJ						

## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

	BK	Article Entitled "Material Handling Makes Just-In-Time Work For AutoCon", by Clyde E. Witt, Associate Editor, MATERIAL HANDLING ENGINEERING, November, 1986.
	BL	Rockwell International Corporation's Fleet Management System Entitled "TripMaster"; July, 1986.
	BM	Glötzl BaumeBtechnik's Publications on "Pressure Cell For Concrete Stress And Joint Pressure"; July, 1979.
	BN	

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/ml)

1988 JUL -8 PM 3:2  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
LeRoy G. Hagenbuch	)	Group Art Unit: 236
Serial No. 717,042	)	Examiner: Brian M. Mattson
Filed: April 1, 1985	)	
Title: Apparatus And Method	)	
Responsive To The	)	
On-Board Measuring Of	)	
The Load Carried By A	)	
Truck Body	)	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. §§1.56 and 1.97, applicant directs the Examiner's attention to the references listed on the attached Form PTO-1449. Copies of the references are enclosed.

In paragraph 18 of the Office Action dated February 9, 1988, a Supplemental Information Disclosure Statement received on February 3, 1988 was indicated as not including a copy of each reference, a form PTO-1449 and a Statement of Relevance. This Supplemental Information Disclosure Statement is intended to provide the elements missing from the February 3, 1988 statement. Applicant apologizes for any inconvenience caused by the missing elements of the February 3, 1988 statement. However, applicant's file indicates that a Form PTO-1449 and copies of the references were prepared and sent to the PTO. Possibly, the form PTO-1449 and the copies of the references became detached from the statement.

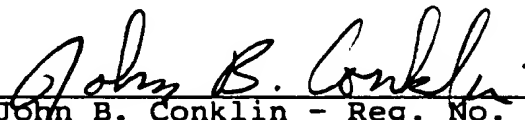
By way of this Information Disclosure Statement, applicant is presenting a translation of the French patent 2,562,659 previously cited as Reference AN in the Information Disclosure

Statement submitted on May 20, 1987. Applicant directs the Examiner's attention to the fact that this French patent was published on October 11, 1985, a date which is after applicant's filing date.

As for the References AQ-BM, they have been identified in connection with the applicant's on-going review of technology related at least in part to the instant invention. However, several of the references are clearly not prior art to this application. Specifically, references AR, AT, BK and BL are dated after the filing date of this application. As for the remaining references AQ, AS and BM, the following is a precise statement of their relevance. Reference AQ discloses a computer system which utilizes a radio data link between a stationary central computer and a hand-held keyboard. Reference AS is a computer-based inventory control system utilizing a bar code system to locate and control the movement of inventory. Reference BM discloses a hydraulic system for measuring pressure. Applicant respectfully requests that these references be made of record.

Signed at Chicago, in the County of Cook and State of Illinois this 7th day of July, 1988.

Respectfully submitted,

  
John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85

GROUP  
236

U.S. PATENT DOCUMENTS

MINER TIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL					
AM					
AN					
AO					
AP					

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

Article entitled "Automated Open Pit Truck Dispatching at Tyrone", June 1982 issue of Engineering and Mining Journal
<del>Information taken from Computer Networks by Tanenbaum, published by Prentice-Hall</del>
<del>One page flyer from Argo Instruments, Inc., Winchester, Virginia</del>

MINER: *[Signature]* DATE CONSIDERED 5/30/91

MINER: Initial if reference considered, whether or not citation is in conformance with MPEP  
Draw line through citation if not in conformation and not considered. Include copy of this  
with next communication to applicant. (JBC/cad)

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85 GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AU						
AV						
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AX						
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
BF						
BG						
BH						
BI						
BJ						

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

2K	Article Entitled "Material Handling Makes Just-In-Time Work For AutoCon", by Clyde E. Witt, Associate Editor, MATERIAL HANDLING ENGINEERING, November, 1986.
2L	Rockwell International Corporation's Fleet Management System Entitled "TripMaster", July, 1986.
BM	Glötzl BaumeBtechnik's Publications on "Pressure Cell For Concrete Stress And Joint Pressure"; July, 1979.
BN	

EXAMINER *[Signature]* DATE CONSIDERED 5/30/91 DATES NOT ESTABLISHED AS PRIOR ART

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 209; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/mlld)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of  
LeRoy G. Hagenbuch

Serial No.: 717,042

Filed: April 1, 1985

Group Art Unit: 236

For: Apparatus and Method  
Responsive to the  
On-Board Measuring of  
the Load Carried by  
a Truck Body

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.97, the Examiner's attention is drawn to the patents and other literature listed on the attached PTO Form 1449 which are described briefly hereinafter. For the Examiner's convenience, a copy of each of the references listed on the attached PTO Form 1449 is enclosed.

The following is a brief statement of the relevance of each reference listed on the attached Form 1449.

Reference AQ is an article entitled "Automated Open Pit Truck Dispatching at Tyrone" which appeared in the June, 1982 issue of the Engineering and Mining Journal. This article discusses truck dispatch as produced by Modular Mining Systems at Tucson, Arizona.

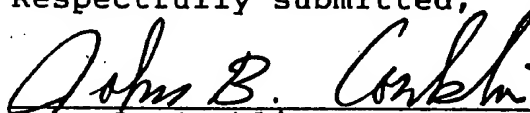
Reference AR is information taken from Computer Networks by Tanenbaum, published by Prentice-Hall. This information discloses packet radio broadcasting and the functioning of a packet radio system for radio communications between fixed and mobile transmitters.

Reference AS is a one-page flyer from Argo Instruments, Inc., Winchester, Virginia. This flyer discloses an electronic device which is mounted on board a vehicle for monitoring certain parameters of the vehicle.

Reference AT is information from the A.H. Emery Company, New Canaan, Connecticut. This information discloses a mechanical totalizer of a much more complicated nature than the mechanical totalizer disclosed in applicant's invention.

Signed at Chicago, in the County of Cook and State of Illinois this 19 day of June, 1986.

Respectfully submitted,

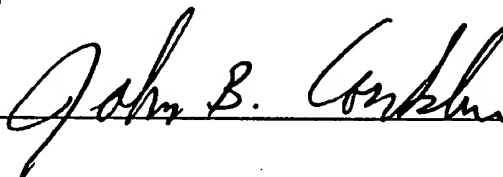


John B. Conklin - Reg. No. 30,369  
Keydig, Voit & Mayer, Ltd.  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on June 29, 1986.

By



Form PTO-1449  
(Rev. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
16842SERIAL NO.  
717,042

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85 GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA						
AB						
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AD						
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AF						
AG						
AH						
AI						
AJ						
AK						

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL	84-05278	10/11/85	France			X
AM						
AN						
AO						
AP						

## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AAQ	Specification Sheet from NORAND Data Systems RT1200 Radio Data Network, 1985.
AR	Advertisement from AUTOMATIC I.D. NEWS on LXE's Radio Linked Data Communications, LXE, a Division of Electromagnetic Sciences, Inc., November, 1986.
AS	Advertisement on Texlon's Portable Tele-Transaction Computers, (PCTs).
AT	Article from MIS WEEK entitled "JIT And The Receiving Room" by Bill Maraschiello, Associate Editor, May 19, 1986.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/m)

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 4/1/85

GROUP  
236

U.S. PATENT DOCUMENTS

MINER IAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA						
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FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL					
AM					
AN					
AO					
AP					

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AT	Information from the A.H. Emery Company, New Canaan, Connecticut

MINER DATE CONSIDERED

MINER: Initial if reference considered, whether or not citation is in conformance with MPEP  
Draw line through citation if not in conformation and not considered. Include copy of this  
with next communication to applicant.

(JBC/cad)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
LeRoy G. Hagenbuch	)	Group Art Unit: 234
Serial No. 717,042	)	Examiner: Mattson
Filed: April 1, 1985	)	
Title: Apparatus And Method	)	
Responsive To The	)	
On-Board Measuring	)	
Of The Load Carried	)	
By A Truck Body	)	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of Patents  
and Trademarks  
Washington, DC 20231

Sir:

Pursuant to 37 C.F.R. §1.56, applicant wishes to direct the Examiner's attention to references recently cited by a European examiner in connection with the examination of an EPC patent application corresponding to this U.S. application. The references are identified on the attached PTO Form 1449, and copies of the references are enclosed for the Examiner's convenience.

Applicant would also like to direct the Examiner's attention to U.S. patent application serial number 874,273 which is a continuation-in-part application of the present application. Attached to this Information Disclosure Statement (IDS) under tab A is a copy of an IDS filed in the '273 application. Copies of the references cited in the '273 IDS are not included herein, but they may be found in the '273 application. The Examiner's attention is also directed to U.S. patent application No. 910,648 which is a

continuation of the parent application, Serial No. 604,739 (now Patent No. 4,630,227).

Reference AL is a French patent with a translation attached. The patent discloses a system for weighing the load carried by a truck and displaying the weight of the load to the truck operator in the cab.

Reference AM is a French patent. A translation is not available. The patent appears to disclose a system for measuring the load carried by a vehicle and displaying a weight value for the load.

Reference AN is a French patent application with a translation of claim 1. A translation of the remainder of the application is not available. This application was published after applicant's filing date and, therefore, it is not prior art under §102. The patent discloses a system for measuring the weight of a load carried by a vehicle, a means for processing data presumably from the weight measuring devices (11 to 1n) and a means of utilizing the data.

Reference AO is a British patent application that discloses a plurality of load cells mounted over and under an axle of a vehicle for measuring the axle load. The pressure differential between a pair of load cells, one above and the other below the axle, is used to provide an indication of how close the axle load is to an acceptable limit.

Reference AP is an EPC application that discloses a ground scale that supports the weight of a vehicle one axle at a time. Each axle is weighed by the scale and the weight data is relayed to the vehicle operator. The data link between the vehicle and ground scale is an infrared link.

Signed at Chicago, County of Cook and State of Illinois, this 20th day of May, 1987.

Respectfully submitted,

John B. Conklin  
John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this Supplemental Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 20th day of May, 1987.

Dated: May 20, 1987 By John B. Conklin  
John B. Conklin - Reg. No. 30,369

30)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.  
16842

SERIAL NO.
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~~717,042~~

102,531

### LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

**FILING DATE**  
April 1, 1985

GROUP	234
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**U.S. PATENT DOCUMENTS**


[illegible]

## FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO	
AL	2400447	11/05/71	France	--	--	X	
AM	2249787	05/30/75	France	--	--		X
AN	<del>2562659</del>	<del>10/11/85</del>	<del>France</del>	<del>--</del>	<del>--</del>	<del>X</del>	
AO	1215275	12/09/70	Great Britain	--	--		X
AP	0060074	09/15/82	EPC	--	--		X

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

[illegible]

EXAMINER 

DATE CONSIDERED 5/30/91

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 509; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (jcp)

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: Leroy G. Hagenbach

FILING DATE 04/01/85 GROUP 234

U.S. PATENT DOCUMENTS

KAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AW					
	AX					
	AY					
	AZ					
	BA					
	BB					
	BC					
	BD					
	BE					
	BF					
	BG					

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
	BH					
	BI					
	BJ					
	BK					
	BL					

OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

BM	<del>Brochure entitled "The Answer To Increased Dispatch Efficiency," by</del>
BN	<del>The Alkon Corp., Columbus, Ohio, @1985.</del>
BO	<del>Harrington, L.H.; "Money Saving Software," Traffic Management, Calmers Publishing</del>
BP	<del>Company, April 1986.</del>
BQ	<del>Himebaugh, A.E.; "Computer-Based Truck Dispatching In The Tyrone Mine," MINING</del>
BR	<del>CONGRESS JOURNAL, November 1980; pp. 16-21.</del>
	<del>Riley et al.; "Vehicle Tracking System For Salem, Oregon Police Dept." THE INSTITUTE</del>
	<del>OF NAVIGATION, Proceedings of the National Technical Meeting, 1/21-23/86; pp. 89-94.</del>

KAMINER *[Signature]*

DATE CONSIDERED 5/30/91

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 39; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 04/01/85

GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
BS						
BT						
BU						
BV						
BW						
BX						
BY						
BZ						
CA						
CB						
CC						

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
CD					
CE					
CF					
CG					
CH					

OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

CI	<del>Kanene et al., "Construction Vehicle ID Transmitter For Carriage Data Collection And Management System," SAE Technical Paper Series, Int'l. Congress And Expo., Detroit, Michigan; February 25 - March 1, 1985; pp. 29-41.</del>
CJ	Cotton et al., "Toronto Transit Commission Communications And Information System Evaluation Of Operation Tests," 30th Annual Conference Of The IEEE Vehicular Technology Society; Bohn Printing Co., Utica, Michigan; Sept. 15-17, 1980.
CK	

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 99; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.



RECEIVED

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PATENT

GROUP 233

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

LeRoy G. Hagenbuch

Serial No. 874,273

Filed: June 13, 1986

Title: Apparatus And Method  
For Locating A Vehicle  
In A Working Area And  
For The On-Board  
Measuring Of Parameters  
Indicative Of Vehicle  
Performance

Group Art Unit: 234

Examiner:

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. §§1.56 and 1.97, applicant directs the Examiner's attention to the references listed on the attached Form PTO-1449. The references listed on the attached form PTO-1449 include both patents and printed publications.

Regarding the cited patents, the patent to Teach et al. discloses a laserbeam survey method and apparatus to establish both horizontal and verticle surveying reference planes which can be used, for example, to simultaneously and automatically control tool height adjustment and steering adjustment mechanisms in a mobile ditch or trench digging machine. The patent to Juhasz et al. discloses a monitoring and recording system for on-board vehicle monitoring and recording of operating engine parameters. Means are also provided for analyzing the process data in remote computing means to provide printouts for record keeping, maintenance and diagnostic purposes. The patent to Pryor discloses a system for automatically guiding tractors and other farm machinery. The

patent to Franks et al. discloses a vehicle maintenance system wherein an operator is notified to take a vehicle to a maintenance facility in response to data gathered at a remote maintenance cite and processed by the central processing unit at a central records cite. The patent to Boulais et al. is directed to farming equipment and to the problem of adjusting the drag of a plow in order to prevent the drag of the plow from exceeding the driving force available from the horse power of the tractor. The remaining patents appear to be primarily directed to robotics as opposed to analyzing operating parameters to increase operational efficiency.

The following is a listing of each of the printed publications cited in this Information Disclosure Statement and a short statement as to its relevance.

Reference

Relevance

AR	Presents an overview of truck management systems, including system described in parent application No. 717,042.
AS	Generally discloses a vehicle monitoring system from GLI Corporation.
AT	Discloses truck management system of parent application No. 717,042.
AU	Describes a "computer model" for evaluating equipment performance in an open-pit mine.
AV	Describes a system on-board a vehicle for sensing vehicle parameters and processing them on board.
AW	Describes robot guided by on-board laser that scans stationary targets for bar codes.

AX	Describes vehicle location system using "dead reckoning" instead of satellite or land-based triangulation techniques.
AY	Describes satellite-based triangulation system to pinpoint location of vehicle.
AZ	Describes satellite-based triangulation system for pinpointing vehicle position.
BA	Discloses a mine vehicle location system.
BB	Describes the mine vehicle location system generally alluded to in reference BA. Coded transponders are attached to underside of vehicles. Receivers are mounted in bed of rail track for reading code as vehicle passes over the transponder.
BC	Discloses system described in reference BB.
BD	Discloses without detail a vehicle tracking device.
BE	Generally discloses vehicle location systems using "dead reckoning" or low-power microwave transmitters strategically located so as to act as "signposts" for passing vehicles.
BF	Describes vehicle location system using a land-based triangulation approach.
BG	Describes in greater detail the vehicle location system of reference BF.

BH	Describes system using transmitter on vehicle and stationary repeaters as "signposts" for locating vehicle and for transmitting data to remote central sites.
BI, BJ, BK	Relates anecdotes concerning performance of GLI Corp. Vehicle Monitoring System (VMS™).
BL	Describes in detail the GLI Corp. Vehicle Monitoring System (VMS™).
BM	Describes a "wireless" modem system.
BN	Describes a mechanical "totalizer" for totalling signals from a plurality of hydraulic load cells.
BO	Describes a single-board microcomputer.
BP	Describes a cableless optical data transmission device.
BQ	Describes system that includes portable bar code reader linked to base station by way of radio waves.
BR	Describes use of bar codes in USPTO to locate application files.
BS	Describes a computer-based system for monitoring performance of engine in a truck. Data is scored and provided as a hard copy printout.
BT	Describes weighing device associated with fifth-wheel mount.

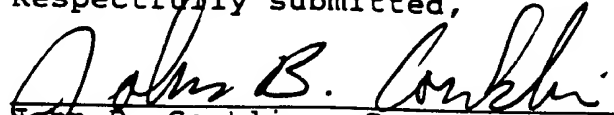
Hagenbuch, U.S.S.N. 874,273

BU

Describes an Analog Input Board allowing micro-computers to monitor analog signals in the presence of high common mode voltages and minimizing the effects of ground loops.

Signed at Chicago, in the County of Cook and State of Illinois this 7th day of May, 1987.

Respectfully submitted,



John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

Hagenbuch, U.S.S.N. 874,273

CERTIFICATE OF MAILING

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 8<sup>th</sup> day of May, 1987.

By

John B. Conkle

Dated:

May 8, 1987

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 6/13/86

GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA	3,813,171	05/28/74	Teach et al.	356	152	
AB	4,049,961	09/20/77	Marcy	250	202	
AC	4,119,900	10/10/78	Kremnitz	318	587	
AD	4,258,421	03/24/81	Juhasz et al.	364	424	
AE	4,263,973	04/28/81	Boulais et al.	172	4.5	
AF	4,299,290	11/10/81	Nunes, Jr.	172	4.5	
AG	4,309,758	01/05/82	Halsall et al.	364	424	
AH	4,482,960	11/13/84	Eryor	364	424	
AI	4,490,798	12/25/84	Franks et al.	364	550	
AJ	4,500,970	02/19/85	Daemmer	364	513	
AK						

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL						
AM						
AN						
AO						
AP						

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AR	"Truck Management Systems Review" by V. Grajer, CANMET (Canada Centre For Mineral Energy Technology) Calgary Coal Research Laboratory, December, 1985.
AS	"Vehicle Monitoring System For Large Off-Highway Trucks", article of GIL Corp. in MINING JOURNAL, January 10, 1986.
AT	"An INTEGRATED Truck Management Information System (Truck MIS) Concept" article by LeRoy G. Hagenbach presented at CIM 2nd Dist. 5 Mtg. on Sept. 11, 1985.
AU	"Analysis of Open-Pit Truck Haulage System by Use of A Computer Model" by J. J. T. W. J. Huoka of Univ. of Utah, in the CIM BULLETIN, July, 1985, pp. 53-60.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPE 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 6/13/86

GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AA					
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
	AL					
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	AN					
	AO					
	AP					

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AV	"Fully Integrated Truck Information & Control Systems (TIACS)" by T.O. Jones & W. Tsuha. SAE Technical Paper Series, Truck & Bus Expo, Cleveland, OH, Nov. 7-10, 1985.
AW	Article on AGV (Automated Guided Vehicle) marketed by Caterpillar Co. along with General Electric Co. of Great Britain. Publication unidentified.
AX	"Car 54, Where Are You? Just Check The Computer Map" article in BUSINESS WEEK, Science & Technology section, August 12, 1985.
AY	"Eye In Sky Will Keep Us From Getting Lost" article by John Hillkirk in USA TODAY, March 5, 1986.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPE 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 6/13/86

GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA						
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FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
AL					
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OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

AZ	"Satellites Add More Accuracy To Locating Objects On Earth" article by D. Wessel Staff Reporter of THE WALL STREET JOURNAL. Date Unknown.
BA	Advertisement by the Hawker Siddeley Dynamics Engineering Ltd. in THE MINING ENGINEER for mining controls capabilities, p. 332, date unknown.
BB	Advertisement by Hawker Siddeley Dynamics Engineering Ltd. on the "Elements Of An MVM System". No DATE
BC	"Dynalink Mine Vehicle & Material Management System", Publication No. BSL 924, Issue No. 01, by Hawker Siddeley Dynamics Engineering Ltd., HSDE 1986.

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APPLICANT: LeRoy G. Hagenbach

FILING DATE 6/13/86

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FOREIGN PATENT DOCUMENTS

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	AL						
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OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

	BD	Advertisement by Identification Devices, Inc., Boulder, CO, on the SYSTEM I.D.® Automated Vehicle Identification. Date Unknown.
	BE	Article on the AVM (Automatic Vehicle Monitoring) and AVL (Automatic Vehicle Location) Systems, pub. in MOBILE RADIO TECHNOLOGY; Sept. 1985, pp. 64-65.
	BF	Article in DESIGN NEWS entitled "Automatic Vehicle Locator 'On-The-Air'", Sept. 23, 1985, p. 29.
	BG	Brochure entitled "Automatic Vehicle Locator System"® by Motorola, Inc., 1984. <i>Mark?</i>

EXAMINER

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OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BH	"Construction Vehicle ID Transmitter For Carriage Data Collection & Management System" by Sumitomo Electric Ind. Int'l Cong. & Expo, Detroit, MI, Feb. - Mar.
BI	Cost Savings Bulletin I describing "VMS™" As A Preventive Maintenance Tool" dated January 13, 1985.
BJ	Cost Savings Bulletin II describing "VMS™" As A Preventive Maintenance Tool" dated September 6-8, 1985.
BK	Cost Savings Bulletin III describing "VMS™" As A Preventive Maintenance Tool" dated December 28-29, 1985.

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APPLICANT: LeRoy G. Hagenbach

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	AL					
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## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BL	"THE VMS" - Setting New Standards For Vehicle Monitoring", publication by GLI Co of Woodinville, WA, published December, 1985.
BM	Article on "Modems Take To The Airwaves" by M. David Stone, published in PC MAGAZINE, January 14, 1986, pp. 184-193.
BN	A.H. Emery "Hytronic Totalizer" catalog sheet, Bulletin 2911, December 5, 1985.
BO	The "OEM-BUS Single Board Computer SYS-22" catalog sheets by The ROBASIC Corporation. (DATE ?)

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DATE CONSIDERED

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(JBC/

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - N
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OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BP	"Optodata" 5200, The Cable Eliminator" sales literature by Scientific Technology, Inc., including master price list.	DATE
BQ	Catalog listing Telxon Portable Bar Code Scanners, Telxon Corporation.	DATE
BR	Article "Bar Codes Hold 'Patent' on Document Tracking" in AUTOMATIC I.D. NEWS, September, 1986.	DATE
BS	The Argo FMS 1330 "Report Card" marketing brochure describing the Argo Fleet Management Systems.	DATE

EXAMINER

DATE CONSIDERED

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(JBC)

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

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AL						
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AN						
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AP						

OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

BT	"5TH Wheel" catalog sheet by Structural Instrumentation, Inc.	DATE?
BU	Advertisement in "Chillon's IAN INSTRUMENTATION & CONTROL NEWS, Vol. 33, No. 12, Burr-Brown's "Multibus"-compatible ANALOG INPUT BOARD, December, 1985."	
BV		
BW		

EXAMINER

DATE CONSIDERED

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(JBC/)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: )  
 )  
LeRoy G. Hagenbuch ) Group Art Unit: 234  
 )  
Serial No. 874,273 ) Examiner: Gary Chin  
 )  
Filed: June 13, 1986 )  
 )  
Title: Apparatus And Method )  
For Loading A Vehicle )  
In A Working Area And )  
For The On-Board )  
Measuring Of Parameters )  
Indicative Of Vehicle )  
Performance )

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.56, applicant directs the Examiner's attention to the references cited by the European Examiner in connection with the issuance of a search report for the European cognate of the above-identified U.S. application. The references identified by the European Examiner in his search report are listed on the attached form PTO-1449, and copies of the references are attached for the Examiner's convenience. Also identified on the attached form PTO-1449 are non-patent publications identified by applicant in connection with his ongoing involvement in the field of vehicle management. Copies of these non-patent publications are also enclosed.

To ensure the Examiner is aware of all related cases, the following pending applications have been filed in applicant's name and are of a related technology.

U.S. Serial No. 717,042; and

U.S. Serial No. 910,648 (a continuation of U.S. Patent No. 4,630,227).

In accordance with 37 C.F.R. §1.98, the following are concise explanations of the relevance of each of the documents listed on the attached form PTO-1449.

Reference:

AA. The patent discloses a location monitoring system for buses. Signposts located along bus routes include location data for interrogation by electronics on-board the bus. The location data is communicated to a control center for monitoring the movement of the bus.

AB. The patent discloses a location monitoring system for vehicles wherein a passive signpost is interrogated by electronics on-board the vehicle. The location information determined from the signpost is communicated to a central monitoring station.

AC. The system of this patent utilizes a combination of signposts and dead-reckoning in order to maintain a "real-time" determination of vehicle location. A vehicle location is reset or zeroed when it reaches a signpost. For movement of the vehicle between signposts, a dead-reckoning method is utilized.

AL. The system disclosed in this patent is substantially similar to the system described in Reference AC.

AM. The published application discloses a vehicle location monitoring system utilizing signposts and a central control station. A transmission scheme is disclosed which allows for communication between the vehicle and the signpost and the vehicle and the central control station utilizing only a single operating frequency, thereby eliminating any need for extra receivers and transmitters at the vehicle.

AN. This system discloses a network of passive signposts which are interrogated by electronics on-board a vehicle. The signpost includes location data which is gathered by the on-board electronics and downloaded to a central control location.

AQ. Applicant believes that the system disclosed in this advertisement brochure utilizes signposts to monitor arrival and departure times at specific work sites.

AR. The reference discloses a computerized vehicle dispatch system which applicant understands to simply include a stationary transmitter/receiver and on-board transmitter/receivers for tracking vehicles with the help of an operator interface.

AT. This publication discloses an automatic truck dispatching and identification system for use in an open-pit mining environment wherein signposts are strategically placed throughout the mine in order to update the location of a vehicle by way of an on-board electronic circuit interrogating the signpost. The on-board circuit downloads the vehicle location data to a central station for use by a controller to automatically determine the optimum dispatch order for the vehicle.

AU. This brochure discloses a system which is interfaced to a Loran-C receiver/channel modem. The Loran-C signals picked up by the receiver are converted into information used to calculate vehicle location. This information is then transmitted via an existing two-way radio to a central dispatch location.

AV. This reference discloses a vehicle location system which combines a dead-reckoning approach with a satellite-location system. The dead-reckoning system is primarily relied upon and updated periodically by reference to a "transit" satellite.

BM. The brochure discloses a vehicle management system which detects the presence of a vehicle at predetermined sites. The detection of a vehicle is transmitted to a central control location for monitoring by a dispatcher.

BN. This article discloses a software program for determining the best routes for a fleet of vehicles. No real-time monitoring is provided.

BO. This article discloses a truck location and dispatching system which relies upon the truck operator to enter information regarding truck location and activity into an on-board computer. The on-board computer transfers the information to a central location where the information is utilized in connection with an algorithm for determining a dispatch instruction.

BP. This paper is an overview of computer dispatching systems in open-pit mining environments. The paper generally discloses computer dispatching systems utilizing signposts for the automatic determination of vehicle location.

BQ. This paper discloses a system which utilizes a Loran-C receiver to pinpoint a location of a vehicle. The vehicle location is transmitted to a central dispatch location. When a vehicle must be dispatched to a particular site, the dispatcher can dispatch the closest vehicle.

BR. This brochure discloses a laser system for automatically steering a vehicle.

CI. This reference discloses a vehicle data collection and management system which utilizes signposts at various working locations and vehicle ID circuitry on-board each truck such that important hauling parameters identified by each signpost can be associated with a particular truck ID and downloaded to a central management station. For example, one signpost may be incorporated with a scale such that the weight of the truck can be obtained and matched with a vehicle ID for downloading to a central location.

CJ. This reference discloses a vehicle location system which utilizes signposts and a type of dead-reckoning wherein odometer sensors are attached to the right front wheel of the vehicle in order to measure the distance a vehicle has traveled from a reference signpost.

Signed at Chicago, in the County of Cook and State of Illinois this 22nd day of September, 1988.

Respectfully submitted,

John B. Conklin  
John B. Conklin - Reg. No. 30,369  
Leydig, Voit & Mayer  
One IBM Plaza - Suite 4600  
Chicago, IL 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 22 day of September, 1988.

By

John B. Conklin

Dated:

September 22, 1988

## LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: Leroy G. Hagenbach

FILING DATE 06/13/86 GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AW						
	AX						
	AY						
	AZ						
	BA						
	BB						
	BC						
	BD						
	BE						
	BF						
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## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
	BH						
	BI						
	BJ						
	BK						
	BL						

## OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

BM	<del>Brochure entitled "The Answer To Increased Dispatch Efficiency," by</del>
	<del>The Alkon Corp., Columbus, Ohio, ©1985.</del>
BN	<del>Harrington, L.H.; "Money Saving Software," Traffic Management, Cahners Publishing</del>
	<del>Company, April 1986.</del>
BO	Himebaugh, A.E.; "Computer-Based Truck Dispatching In The Tyrone Mine," MINING
	CONGRESS JOURNAL, November 1980; pp. 16-21.
BP	Arnold et al., "Computer Dispatching Improves Open Pit Mining Efficiency" Presented
	at American Mining Congress Int'l. Mining Show, Las Vegas, NV; Oct. 5-9, 1986.
BQ	<del>Riley et al., "Vehicle Tracking System For Salem, Oregon Police Dept." THE INSTITUTE</del>
	<del>OF NAVIGATION, Proceedings of the National Technical Meeting, 1/21-23/86, pp. 89-94</del>
BR	<del>Brochure entitled "LAZER NET™ The Smart Sensor", Nemo Controls,</del>
	<del>Mentor, Ohio, ©April, 1986.</del>

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant. (JBC/mld)

## LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbuch

FILING DATE 6/13/86

GROUP 234

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	BS						
	BT						
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	BY						
	BZ						
	CA						
	CB						
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
	CD						
	CE						
	CF						
	CG						
	CH						

## OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

CI	<del>Kaneno et al., "Construction Vehicle ID Transmitter For Carriage Data Collection And Management System," SAE Technical Paper Series, Int'l. Congress And Expo, Detroit, Michigan; February 25 - March 1, 1985, pp. 29-41.</del>
CJ	Cotton et al., "Toronto Transit Commission Communications And Information System Evaluation Of Operation Tests," 30th Annual Conference Of The IEEE Vehicular Technology Society; Bohn Printing Co., Utica, Michigan; Sept. 15-17, 1980.
CK	
CL	

EXAMINER

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(JBC/mld)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	)	
	)	
LeRoy G. Hagenbuch	)	
	)	Group Art Unit: 234
Serial No. 874,273	)	
	)	
Filed: June 13, 1986	)	
	)	
For: Apparatus And Method For	)	
Locating A Vehicle In A	)	
Working Area And For The	)	
On-Board Measuring Of	)	
Parameters Indicative Of	)	
Vehicle Performance	)	

SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56, Applicant wishes to direct the Examiner's attention to references recently cited by an European examiner in connection with the examination of an EPC patent application corresponding to one of the parent applications of this present application. The references are identified on the attached PTO Form 1449 and copies of the references are enclosed for the Examiner's convenience.

Reference AL is a French patent with a translation attached. The patent discloses a system for weighing the load carried by a truck and displaying the weight of the load to the truck operator in the cab.

Reference AM is a French patent. A translation is not available. The patent appears to disclose a system for measuring the load carried by a vehicle and displaying a weight value for the load.

Reference AN is a French patent application with a translation of claim 1. A translation of the remainder of the application is not available. This application was

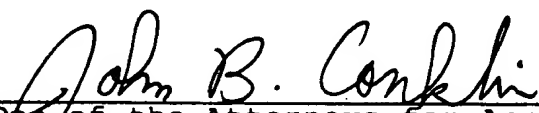
published after applicant's filing date and, therefore, it is not prior art under Section 102. The patent discloses a system for measuring the weight of a load carried by a vehicle, a means for processing data presumably from the weight measuring devices (11 to 1N) and a means of utilizing the data.

Reference AO is a British patent application that discloses a plurality of load cells mounted over and under an axle of a vehicle for measuring the axle load. The pressure differential between a pair of load cells, one above and the other below the axle, is used to provide an indication of how close the axle load is to an acceptable limit.

Reference AP is an EPC application that discloses a ground scale that supports the weight of a vehicle one axle at a time. Each axle is weighed by the scale and the weight data is relayed to the vehicle operator. The data link between the vehicle and ground scale is an infrared link.

Signed at Chicago, in the County of Cook, and State of Illinois, this 20th day of May, 1987.

Respectfully submitted,

  
\_\_\_\_\_  
One of the Attorneys for Applicant  
John B. Conklin, Reg. No. 30,369  
LEYDIG, VOIT & MAYER  
One IBM Plaza - Suite 4600  
Chicago, Illinois 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on May 20, 1987.

Date

May 20, 1987John B. Conklin - Reg. No. 30369

D.F.

FORM PTO-892  
(REV. 3-78)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

SERIAL NO.

874273

GROUPART UNIT

234

ATTACHMENT  
TO  
PAPER  
NUMBER

## NOTICE OF REFERENCES CITED

APPLICANT(S)

HAGENBUCH

## U.S. PATENT DOCUMENTS

* A	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A	4099591	7-78	CARR	340	988	
B	3644883	2-72	BORMAN ET AL	340	991	
C	4009375	2-77	WHITE ET AL	340	988	
D	4217588	8-80	FREENY, JR.	340	988	
E	4350970	9-82	VON TOMKEWITSCH	340	988	
F	3940630	2-76	BERGONZ	340	991	
G	3876980	4-75	HAEMMIG ET AL	340	991	
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## FOREIGN PATENT DOCUMENTS

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## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )

Leroy G. Hagenbuch )

Serial No. 910,648 )

Filed: September 23, 1986 )

For: Apparatus And Method for )  
 On-Board Measuring Of )  
 The Load Carried By )  
 Truck Body )

Group Art Unit: 234

Examiner: Gary Chin

SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
 and Trademarks  
 Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56, Applicant wishes to direct the Examiner's attention to references recently cited by an European examiner in connection with the examination of an EPC patent application corresponding to U.S. Patent Application Serial No. 717,042, which is a continuation-in-part of the present application. The references are identified on the attached PTO Form 1449, and copies of the references are enclosed for the Examiner's convenience. These references have also been forwarded to the aforementioned '042 application and to another continuation-in-part application, Serial No. 874,273. These related continuation-in-part applications are expressly mentioned in the Preliminary Amendment previously filed in this application.

Reference AL is a French patent with a translation attached. The patent discloses a system for weighing the load carried by a truck and displaying the weight of the load to the truck operator in the cab.

Reference AM is a French patent. A translation is not available. The patent appears to disclose a system for measuring the load carried by a vehicle and displaying a weight value for the load.

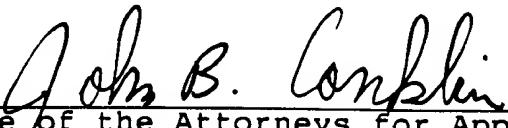
Reference AN is a French patent without a translation except for claim 1. A translation of the remainder of the application is not available. This application was published after applicant's filing date and, therefore, it is not prior art under Section 102. The patent discloses a system for measuring the weight of a load carried by a vehicle, a means for processing data presumably from the weight measuring devices (11 to 1N) and a means of utilizing the data.

Reference AO is a British patent application that discloses a plurality of load cells mounted over and under an axle of a vehicle for measuring the axle load. The pressure differential between a pair of load cells, one above and the other below the axle, is used to provide an indication of how close the axle load is to an acceptable limit.

Reference AP is an EPC application that discloses a ground scale that supports the weight of a vehicle one axle at a time. Each axle is weighed by the scale and the weight data is related to the vehicle operator. The data length between the vehicle and ground scale is an infrared link.

Signed at Chicago, in the County of Cook, and State of Illinois, this 20th day of May, 1987.

Respectfully submitted,

  
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One of the Attorneys for Applicant  
John B. Conklin, Reg. No. 30,369  
LEYDIG, VOIT & MAYER  
One IBM Plaza - Suite 4600  
Chicago, Illinois 60611  
(312) 822-9666

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on May 20, 1987.

May 20, 1987  
Date

John B. Conklin  
John B. Conklin - Reg. No. 30,369

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: Leroy G. Hagenbuch

FILING DATE  
September, 23, 1986GROUP  
234

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA	<del>3,531,766</del>	<del>09/70</del>	<del>Henzel</del>			
AB	<del>3,545,558</del>	<del>12/70</del>	<del>Maugh</del>			
AC	<del>3,603,418</del>	<del>09/71</del>	<del>Schmidt et al.</del>			
AD	<del>3,669,756</del>	<del>06/72</del>	<del>Bradley</del>			
AE	<del>3,743,041</del>	<del>07/73</del>	<del>Videon</del>			
AF	<del>3,780,817</del>	<del>12/73</del>	<del>Videon</del>			
AG	<del>3,800,895</del>	<del>04/74</del>	<del>Gale et al.</del>			
AH	<del>3,854,540</del>	<del>12/74</del>	<del>Holmstrom, Jr.</del>			
AI	<del>3,878,908</del>	<del>04/72</del>	<del>Andersson et al.</del>			
AJ	<del>3,889,767</del>	<del>07/75</del>	<del>Scott et al.</del>			
AK	<del>3,899,924</del>	<del>08/75</del>	<del>Klein</del>			

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
CL	1,593,993	07/81	Great Britain			
CM	2,400,447	11/71	France			
CN	2,249,787	05/75	France			
CO	<del>2,562,659</del>	<del>10/85</del>	<del>France</del>			
CR	1,215,275	12/70	Great Britain (CONT'D PG 3)			

## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

CX	<del>Brochure for the "Merriman Windjammer" Air/Hydraulic Actuation by Merriman Products, Inc., Jackson, Michigan</del>
CY	<del>Contract report prepared by the Bureau of Mines, United States Department of the Interior. Directed to "Off-Highway Haulage Truck Overload Detection".</del>
CZ	<del>One page ad for a material handling device or storage system identified by the trademark name Load Bank, manufactured by Conveyor Logic Inc.</del>
DA	<del>Brochure entitled "Air Cushions and Vehicle Tyres in Weighing Machines", copyright Bradbury Controls Ltd.</del>
DB	<del>Article entitled "Computer Monitors and Controls All Truck-Shovel Operations" from March, 1985 issue of Coal Age magazine.</del>
DC	<del>Two fliers by Maintenance Technology Incorporated on the Programmed Service Monitoring System (CONT'D PG 4)</del>

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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.

(#1PAS/it)



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	<u>DOCUMENT NO.</u>	<u>DATE</u>	<u>NAME</u>
AL	3,927,724	12/75	Baker
AM	3,960,228	06/76	Nordstrom
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CU	493,628	09/77	Australia
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- DL Pamphlet entitled "Wheel Weighers", from Evergreen Weigh, Inc., Suite E, 19023 36th Ave. W., Lynnwood, Washington 98036.
- DM Pamphlet entitled "SSI Sludge Mixer" from SSI Corporation, P.O. Box 209, West Highway 12, Long Lake, Minnesota 55356.
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- DZ "Satallites Add More Accuracy To Locating Objects On Earth" article by D. Wessel, Staff Reporter of THE WALL STREET JOURNAL. Date unknown.
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- EP "Optodata® 5200, The Cable Eliminator" sales literature by Scientific Technology, Inc., including master price list.
- EQ Catalog listing Telxon Portable Bar Code Scanners, Telxon Corporation.
- ER Article "Bar Codes Hold 'Patent' on Document Tracking" in AUTOMATIC I.D. NEWS, September, 1986.
- ES The Argo FMS 1330 "Report Card" marketing brochure describing the Argo Fleet Management Systems.
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- FG Marcelo, Ben; "Selecting The Right Automatic Vehicle Location System"; Magnavox (no date).
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- FI Harrington, L.H.; "Money-Saving Software," Traffic Management, Cahners Publishing Company, April 1986.
- FJ Himebaugh, A.E.; "Computer-Based Truck Dispatching In the Tyrone Mine," MINING CONGRESS JOURNAL, November 1980; pp. 16-21.
- FK Riley et al., "Vehicle Tracking System For Salem, Oregon Police Dept. "THE INSTITUTE OF NAVIGATION", Proceedings of the National Technical Meeting, 1/21-23/86; pp. 89-94.
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Rev. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
30093SERIAL NO.  
910,648

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: Leroy G. Hagenbuch

FILING DATE  
September, 23, 1986GROUP  
234

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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AA	3,531,766	09/70	Henzel			
AB	3,545,558	12/70	Maugh			
AC	3,603,418	09/71	Schmidt et al.			
AD	3,669,756	06/72	Bradley			
AE	3,743,041	07/73	Videon			
AF	3,780,817	12/73	Videon			
AG	3,800,895	04/74	Gale et al.			
AH	3,854,540	12/74	Holmstrom, Jr.			
AI	3,878,908	04/22	Andersson et al.			
AJ	3,889,767	07/75	Scott et al.			
AK	3,899,924	08/75	Klein (CONT'D PG 2)			

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
CL	1,593,993	07/81	Great Britain			
CM	2,400,447	11/71	France			
CN	2,249,787	05/75	France			
CO	2,562,659	10/85	France			
CP	1,215,275	12/70	Great Britain (CONT'D PG 3)			

## OTHER REFERENCES (including Author, Title, Pertinent Pages, Etc.)

CX	Brochure for the "Merriman Windjammer" Air/Hydromechanical Actuation by Merriman Products, Inc., Jackson, Michigan
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## NOTICE OF REFERENCES CITED

APPLICANT(S)

HAGENBUCH

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* A	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
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C	2756983	7-56	FURCINI	177	141	
D	3306384	2-67	ROSS	177	141	
E	4635739	1-87	FOLEY ET AL	177	141	6-85
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J						
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## FOREIGN PATENT DOCUMENTS

* L	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG	PP. SPEC.
L								
M								
N								
O								
P								
Q								

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
LeRoy G. Hagenbuch	)	Group Art Unit: 234
Serial No. 910,648	)	Examiner: Gary Chin
Filed: September 23, 1986	)	
Title: Apparatus And Method	)	
For On-Board Measuring	)	
Of The Load Carried By	)	
A Truck Body	)	

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.56, applicant directs the Examiner's attention to the references cited by the European Examiner in connection with the issuance of a search report for the European cognate of U.S. Serial No. 874,273. The '273 application is a continuation-in-part of the present application. The references identified by the European Examiner in his search report are listed on the attached form PTO-1449, and copies of the references are attached for the Examiner's convenience. Also identified on the attached form PTO-1449 are non-patent publications identified by applicant in connection with his ongoing involvement in the field of vehicle management. Copies of these non-patent publications are also enclosed.

To ensure the Examiner is aware of all related cases, the following pending applications have been filed in applicant's name and are of a related technology.

U.S. Serial No. 717,042; and

U.S. Serial No. 874,273.

In accordance with 37 C.F.R. §1.98, the following are concise explanations of the relevance of each of the documents listed on the attached form PTO-1449.

Reference:

AA. The patent discloses a location monitoring system for buses. Signposts located along bus routes include location data for interrogation by electronics on-board the bus. The location data is communicated to a control center for monitoring the movement of the bus.

AB. The patent discloses a location monitoring system for vehicles wherein a passive signpost is interrogated by electronics on-board the vehicle. The location information determined from the signpost is communicated to a central monitoring station.

AC. The system of this patent utilizes a combination of signposts and dead-reckoning in order to maintain a "real-time" determination of vehicle location. A vehicle location is reset or zeroed when it reaches a signpost. For movement of the vehicle between signposts, a dead-reckoning method is utilized.

AL. The system disclosed in this patent is substantially similar to the system described in Reference AC.

AM. The published application discloses a vehicle location monitoring system utilizing signposts and a central control station. A transmission scheme is disclosed which allows for communication between the vehicle and the signpost and the vehicle and the central control station utilizing only a single operating frequency, thereby eliminating any need for extra receivers and transmitters at the vehicle.

AN. This system discloses a network of passive signposts which are interrogated by electronics on-board a vehicle. The signpost includes location data which is gathered by the on-board electronics and downloaded to a central control location.

AQ. Applicant believes that the system disclosed in this advertisement brochure utilizes signposts to monitor arrival and departure times at specific work sites.

AR. The reference discloses a computerized vehicle dispatch system which applicant understands to simply include a stationary transmitter/receiver and on-board transmitter/receivers for tracking vehicles with the help of an operator interface.

AT. This publication discloses an automatic truck dispatching and identification system for use in an open-pit mining environment wherein signposts are strategically placed throughout the mine in order to update the location of a vehicle by way of an on-board electronic circuit interrogating the signpost. The on-board circuit downloads the vehicle location data to a central station for use by a controller to automatically determine the optimum dispatch order for the vehicle.

AU. This brochure discloses a system which is interfaced to a Loran-C receiver/channel modem. The Loran-C signals picked up by the receiver are converted into information used to calculate vehicle location. This information is then transmitted via an existing two-way radio to a central dispatch location.

AV. This reference discloses a vehicle location system which combines a dead-reckoning approach with a satellite-location system. The dead-reckoning system is primarily relied upon and updated periodically by reference to a "transit" satellite.

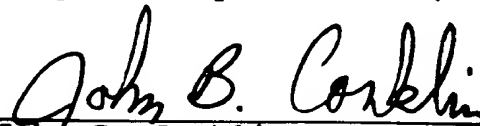
BM. The brochure discloses a vehicle management system which detects the presence of a vehicle at predetermined sites. The detection of a vehicle is transmitted to a central control location for monitoring by a dispatcher.

BN. This article discloses a software program for determining the best routes for a fleet of vehicles. No real-time monitoring is provided.

BO. This reference discloses a vehicle location system which utilizes signposts and a type of dead-reckoning wherein odometer sensors are attached to the right front wheel of the vehicle in order to measure the distance a vehicle has traveled from a reference signpost.

Signed at Chicago, in the County of Cook and State of Illinois this 22 day of September, 1988.

Respectfully submitted,

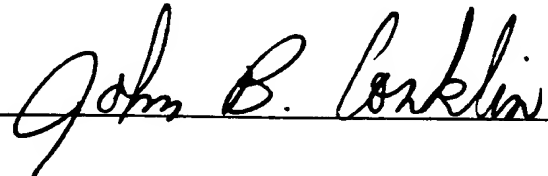


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CERTIFICATE OF MAILING

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on this 22 day of September, 1988.

By



Dated:

Sept. 22, 1988

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: LeRoy G. Hagenbach

FILING DATE 09/23/86

GROUP 234

U.S. PATENT DOCUMENTS

XAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
<i>[Signature]</i>	AA	3,644,883	02/22/72	Borman et al.	340	23	
<i>[Signature]</i>	AB	3,940,630	02/24/76	Bergonz	250	568	
<i>[Signature]</i>	AC	4,107,689	08/15/78	Jellinek	343	112	
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
<i>[Signature]</i>	AL	2,025,185	01/16/80	Great Britain	—	—	N/A
<i>[Signature]</i>	AM	WO 83/04451	12/22/83	PCT	—	—	N/A
<i>[Signature]</i>	AN	493,628	09/29/77	Australia	—	—	N/A
	AO						
	AP						

OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

		<del>E-ZTRAC Truck Tracking System ©1984 - Computer Program Written in COBOL which is a</del>
AQ		<del>Unique Tracking System Designed Specifically for the Ready Mixed Concrete Industry.</del>
		<del>Article by SPEEDCALL Corporation Entitled "Fleet Dispatch and Control Systems",</del>
AR		<del>Copyright 1984.</del>
	AS	
<i>[Signature]</i>	AT	A Brochure entitled "Automatic Truck Dispatching and Identification System", Gould, Inc., Information Identification Division, September, 1980.
		<del>A Brochure for Motorola's "Automatic Vehicle Location System",</del>
AU		<del>Copyright 1984.</del>
		<del>Marcilio, Ben; "Selecting The Right Automatic Vehicle Location System";</del>
AV		<del>Magnavox (no date).</del>

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT: Leroy G. Hagenbach

FILING DATE 09/23/86

GROUP 234

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AW						
AX						
AY						
AZ						
BA						
BB						
BC						
BD						
BE						
BF						
BG						

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES - NO
BH					
BI					
BJ					
BK					
BL					

OTHER PRIOR ART (including Author, Title, Pertinent Pages, Etc.)

BM	<del>Brochure entitled "The Answer To Increased Dispatch Efficiency," by</del>
BN	<del>The Alkon Corp., Columbus, Ohio, ©1985.</del>
BO	<del>Harrington, L.H.; "Money-Saving Software," Traffic Management, Gannett Publishing</del>
	<del>Company, April 1986.</del>
	Cotton et al., "Toronto Transit Commission Communications And Information System
	Evaluation Of Operation Tests," 30th Annual Conference Of The IEEE Vehicular
	Technology Society; Bohn Printing Co., Utica, Michigan; Sept. 15-17, 1980.
BP	

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformation and not considered. Include copy of this form with next communication to applicant.

(39-1) (JBC/mld)